UNITED STATES PATENT AND TRADEMARK OFFICE

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EXAMINER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 May 2008*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12,14-16,22 and 24* is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12,14-16,22 and 24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 November 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☐ All   b)☐ Some *   c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
     Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this

application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April

13, 2009 has been entered.

Response to Arguments

Applicant's arguments with respect to claims 1, 22 and 24 have been considered

but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

1.   **Claims 1-3, 5-6, 10-12, 22, and 24 are rejected under 35 U.S.C. 103(a) as**

being unpatentable over Sano (US Patent 5,739,924) in view of Nakamura (US

Patent 5,280,354).

2.   In regard to **claim 1**, note Sano discloses a method of performing image processing using image data generated by an image generator and image generation record information that is associated with the image data (column 1, lines 63-67) and that includes at least supplementary light source flash information at the time of generation of the image data (column 4, lines 46-51), the method comprising judging whether to execute image quality adjustment processing on the basis of the supplementary light source flash information contained in the image generation record information (column 8, line 40 – column 10, line 18 and figure 3), and in case it is judged to execute the image quality adjustment processing, executing the image quality adjustment processing to adjust the image data so that variation in brightness values is minimized in a highest value range within an entire possible range for brightness values represented by the image data (column 9, lines 15-25 and figure 6). Therefore, it can be seen that Sano fails to explicitly disclose that a target area of processing targeted for the image quality adjustment processing is a portion of an entire image, the target area including a first type area formed by maximum brightness pixels continuing in the image, the maximum brightness pixels having maximum possible brightness value.

In analogous art, Nakamura discloses the use of a target area of processing targeted for the image quality adjustment processing is a portion of an entire image, the target area including a first type area formed by maximum brightness pixels continuing in the image, the maximum brightness pixels having maximum possible brightness value (column 2, lines 38-58, column 3, lines 51-59, and figure 6; the target area is considered to be the flare region having a value over the maximum brightness).

Nakamura teaches that the use of a target area of processing targeted for the image quality adjustment processing is a portion of an entire image, the target area including a first type area formed by maximum brightness pixels continuing in the image, the maximum brightness pixels having maximum possible brightness value is preferred in order compensate for any undesired deterioration caused by image flare (column 1, lines 19-22). Therefore, it would have been obvious to one of ordinary skill in the art to modify Sano to include the use of a target area of processing targeted for the image quality adjustment processing is a portion of an entire image, the target area including a first type area formed by maximum brightness pixels continuing in the image, the maximum brightness pixels having maximum possible brightness value, in order to compensate for any undesired deterioration caused by image flare, as suggested by Nakamura.

3.   In regard to **claim 2**, note Sano discloses that the image quality adjustment includes judging, on the basis of the supplementary light source flash information contained in the image generation record information, whether there was illumination by the supplemental light source at the time of generation of the image data is made, and executing the image quality adjustment processing in case a judgment (a) to the effect that "there was illumination by the supplemental light source at the time of generation of the image data" is realized (column 8, line 57—column 9, line 61).

4.   In regard to **claim 3**, note Sano discloses that the image generation record information further includes information relating to a distance between a subject and the image generator of the image data at the time of generation of the image data (column

4, lines 46-51), and the image quality adjustment includes performing a process wherein regardless of realization of the judgment (a), in case a judgment (b) to the effect that "the distance from the subject is not within a first predetermined close range" is realized, execution of the image quality adjustment processing is halted, or a degree of brightness value adjustment in the image quality adjustment processing is reduced (column 6, line 64 – column 7, line 25).

5.   In regard to **claim 5**, note Sano discloses that the image generation record information further includes information relating to aperture value of the image generator at the time of generation of the image data (column 4, lines 46-51), and the image quality adjustment includes adjusting the first predetermined close range at least on the basis of the aperture value (column 8, lines 40-56).

6.   In regard to **claim 6**, note Sano discloses that the image generation record information further includes information relating to sensitivity of an optical circuit of the image generator at the time of generation of the image data (column 4, lines 46-51; the aperture and speed values are related to the sensitivity), and the image quality adjustment includes adjusting the first predetermined close range at least on the basis of the optical circuit sensitivity (column 8, lines 40-56).

7.   In regard to **claim 10**, note Sano discloses that the image generation record information further contains information relating to a distance between a subject and the image generator at the time of generation of the image data (column 4, lines 46-51), and the image quality adjustment includes adjusting a degree of brightness value

adjustment in the image quality adjustment processing at least on the basis of distance from the subject (column 6, line 64 – column 7, line 25).

8.   In regard to **claim 11**, note Sano discloses that the image generation record information further includes information relating to aperture value of the image generator at the time of generation of the image data (column 4, lines 46-51), and the image quality adjustment includes adjusting a degree of brightness value adjustment in the image quality adjustment processing at least on the basis of the aperture value (column 8, lines 40-56).

9.   In regard to **claim 12**, note Sano discloses that the image generation record information further includes information relating to sensitivity of an optical circuit of the image generator at the time of generation of the image data (column 4, lines 46-51; the aperture and speed values are related to the sensitivity), and the image quality adjustment includes adjusting a degree of brightness value adjustment in the image quality adjustment processing at least on the basis of the sensitivity (column 8, lines 40-56).

10.   In regard to **claim 22**, this is an apparatus claim, corresponding to the method of claim 1. Therefore, claim 22 has been analyzed and rejected as previously discussed with respect claim 1.

11.   In regard to **claim 24**, this is a computer product claim, corresponding to the method of claim 1. Therefore, claim 24 has been analyzed and rejected as previously discussed with respect claim 1.

12.   **Claims 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable**

over Sano (US Patent 5,739,924) in view of Nakamura (US Patent 5,280,354), and

further in view of MacLean et al. (US Pub. 2002/0110376).

13.   In regard to **claim 14**, note the primary reference of Sano in view of Nakamura

discloses the use of a method of performing image processing using image data

generated by an image generator and image generation record information that is

associated with the image data, as discussed with respect to claim 13 above.

Therefore, it can be seen that the primary reference fails to explicitly disclose the use of

a second type area meeting a specific condition, situated in the vicinity of the first type

area.

In analogous art, MacLean discloses the use of a target area processor, that also

uses a second type area meeting a specific condition, situated in the vicinity of the first

type area (paragraphs 0161-0167, and figure 11). MacLean teaches that the use of a

second type area meeting a specific condition for target area processing is preferred in

order to manage the processing appropriately so that it fits within the dynamic range of

the data representing the output device (paragraph 0163). Therefore, it would have

been obvious to one of ordinary skill in the art to modify the primary reference to include

the use of a second type area meeting a specific condition for target area processing in

order to manage the processing appropriately so that it fits within the dynamic range of

the data representing the output device, as suggested by MacLean.

14.   In regard to **claim 15**, note MacLean discloses that the specific condition

includes at least a condition (e) to the effect that "the second type area is composed of

pixels whose shortest distance from the first type area is equal to or less than a first predetermined distance" (paragraphs 0163-0165).

15.   In regard to **claim 16**, note the primary reference of Sano in view of Nakamura discloses the use of a method of performing image processing using image data generated by an image generator and image generation record information that is associated with the image data, as discussed with respect to claim 14 above. Therefore, it can be seen that the primary reference fails to explicitly disclose that the specific condition includes at least a condition (f) to the effect that "the second type area is an area composed of pixels whose brightness value is equal to or greater than a second predetermined brightness value, and is an area linked to the first area". Official Notice is taken that the concepts and advantages of determining a secondary region of processing based on the brightness value of pixels an area linked to the first area are notoriously well known and expected in the art. Therefore, it would have been obvious to one of ordinary skill in the art to modify the primary reference to include the selection of the second type area based on the brightness value of pixels an area linked to the first area, in order to blend the highlight regions with the rest of the image, as well as provide proper edge enhancement/softening.

16.   **Claims 4, 7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sano (US Patent 5,739,924) in view of Nakamura (US Patent 5,280,354), and further in view of Sosa et al. (US Patent 5,016,039).**

17.   In regard to **claim 4**, note the primary reference of Sano in view of Nakamura

discloses a method of performing image processing using image data generated by an

image generator and image generation record information that is associated with the

image data, as discussed with respect to claim 3 above. Therefore, it can be seen that

the primary reference fails to explicitly disclose that the image generation record

information further includes information relating to quantity of light of the supplemental

light source at the time of generation of the image data, and that the image quality

adjustment includes adjusting the first predetermined close range at least on the basis

of the quantity of light. However, Sano does disclose that the "close range" can be

adjusted in connection with photographic information.

        In analogous art, Sosa discloses the use of an image generation record

information that includes information relating to the quantity of light of a supplemental

light source at the time of generation of the image data (column 15, lines 53-67), and an

image quality adjustment that adjusts an image based on at least on the basis of the

quantity of light (column 15, lines 53-67). Sosa teaches that the use of image

generation record information that includes information relating to the quantity of light of

a supplemental light source at the time of generation of the image data, and an image

quality adjustment that adjusts an image at least on the basis of the quantity of light is

preferred in order to process the image for proper reproduction of colors with respect to

the ratio of natural and supplemental lighting (column 15, lines 53-67). Therefore, it

would have been obvious to one of ordinary skill in the art to modify the primary

reference of Sano in view of Nakamura by combining the "close range" adjustment of

Sano to be adjusted corresponding to the information relating to quantity of light of the

supplemental light source at the time of generation of the image data in order to

reproduce the image with a proper balance of natural and supplemental lighting, as

suggested by Sosa.

18.   In regard to **claim 7**, note the primary reference of Sano in view of Nakamura

discloses a method of performing image processing using image data generated by an

image generator and image generation record information that is associated with the

image data, as discussed with respect to claim 2 above. Therefore, it can be seen that

the primary reference fails to explicitly disclose that the image generation record

information further includes information relating to quantity of light of the supplemental

light source at the time of generation of the image data, and the image quality

adjustment includes wherein regardless of realization of the judgment (a), when a

judgment (c) to the effect that "the quantity of light is not within a predetermined range"

is realized, execution of the image quality adjustment processing is halted, or a degree

of brightness value adjustment in the image quality adjustment processing is reduced.

In analogous art, Sosa discloses the use of an image generation record

information that includes information relating to quantity of light of the supplemental light

source at the time of generation of the image data (column 15, lines 53-67), and an

image quality adjustment, in case a judgment (c) to the effect that "the quantity of light is

not within a predetermined range" is realized, execution of the image quality adjustment

processing is halted, or a degree of brightness value adjustment in the image quality

adjustment processing is reduced (column 15, lines 53-67). Sosa teaches that the use

of image generation record information that includes information relating to quantity of light of the supplemental light source at the time of generation of the image data, and an image quality adjustment, in case a judgment (c) to the effect that "the quantity of light is not within a predetermined range" is realized, execution of the image quality adjustment processing is halted, or a degree of brightness value adjustment in the image quality adjustment processing is reduced is preferred in order to process the image for proper reproduction of colors with respect to the ratio of natural and supplemental lighting (column 15, lines 53-67). Therefore, it would have been obvious to one of ordinary skill in the art to modify the primary reference of Sano in view of Nakamura such that the image generation record information further includes information relating to quantity of light of the supplemental light source at the time of generation of the image data, and the image quality adjustment includes wherein regardless of realization of the judgment (a), when a judgment (c) to the effect that "the quantity of light is not within a predetermined range" is realized, execution of the image quality adjustment processing is halted, or a degree of brightness value adjustment in the image quality adjustment processing is reduced in order to reproduce the image with a proper balance of natural and supplemental lighting, as suggested by Sosa.

19.   In regard to **claim 9**, note the primary reference of Sano in view of Nakamura discloses a method of performing image processing using image data generated by an image generator and image generation record information that is associated with the image data, as discussed with respect to claim 1 above. Therefore, it can be seen that the primary reference fails to explicitly disclose that the image generation record

information further contains information relating to quantity of light of the supplemental

light source at the time of generation of the image data, and the image quality

adjustment includes adjusting a degree of brightness value adjustment in the image

quality adjustment processing at least on the basis of the quantity of light.

In analogous art, Sosa discloses the use of an image generation record

containing information relating to quantity of light of the supplemental light source at the

time of generation of the image data (column 15, lines 53-67), and an image quality

adjustment adjusts a degree of brightness value adjustment in an image quality

adjustment processing at least on the basis of the quantity of light (column 15, lines 53-

67). Sosa teaches that the use of an image generation record containing information

relating to quantity of light of the supplemental light source at the time of generation of

the image data, and an image quality adjustment that adjusts a degree of brightness

value adjustment in an image quality adjustment processing at least on the basis of the

quantity of light is preferred in order to process the image for proper reproduction of

colors with respect to the ratio of natural and supplemental lighting (column 15, lines 53-

67). Therefore, it would have been obvious to one of ordinary skill in the art to modify

the primary reference of Sano in view of Nakamura such that the image generation

record information further contains information relating to quantity of light of the

supplemental light source at the time of generation of the image data, and the image

quality adjustment includes adjusting a degree of brightness value adjustment in the

image quality adjustment processing at least on the basis of the quantity of light in order

to reproduce the image with a proper balance of natural and supplemental lighting, as

suggested by Sosa.

20.   **Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sano**

(US Patent 5,739,924) in view of Nakamura (US Patent 5,280,354), and further in

view of Terashita (US Patent 7,359,571).

21.   In regard to **claim 8**, note the primary reference of Sano in view of Nakamura

discloses a method of performing image processing using image data generated by an

image generator and image generation record information that is associated with the

image data, as discussed with respect to claim 2 above. Therefore, it can be seen that

the primary reference fails to explicitly disclose that the image quality adjustment

includes performing a process wherein regardless of realization of the judgment (a), in

case a judgment (d) to the effect that "size of an area of linked pixels having brightness

above a first predetermined brightness value in the image data is larger than a

predetermined threshold value" is realized, execution of the image quality adjustment

processing is halted, or a degree of brightness value adjustment in the image quality

adjustment processing is reduced.

     In analogous art, Terashita discloses the use of an image quality adjustment

performing a process, wherein in case a judgment (d) to the effect that "size of an area

of linked pixels having brightness above a first predetermined brightness value in the

image data is larger than a predetermined threshold value" is realized, execution of the

image quality adjustment processing is halted, or a degree of brightness value

adjustment in the image quality adjustment processing is reduced (column 5, line 27—

column 6, line 57; when the face area is recognized, the brightness is adjusted).

Terashita teaches that the use of an image quality adjustment performing a process,

wherein in case a judgment (d) to the effect that "size of an area of linked pixels having

brightness above a first predetermined brightness value in the image data is larger than

a predetermined threshold value" is realized, execution of the image quality adjustment

processing is halted, or a degree of brightness value adjustment in the image quality

adjustment processing is reduced is preferred in order to improve reproducibility in both

the highlight range and the shadow range (column 6, lines 58-67). Therefore, it would

have been obvious to one of ordinary skill in the art to modify the primary reference of

Sano in view of Nakamura such that the image generation record information further

includes information relating to quantity of light of the supplemental light source at the

time of generation of the image data, and the image quality adjustment includes wherein

regardless of realization of the judgment (a), when a judgment (c) to the effect that "the

quantity of light is not within a second predetermined range" is realized, execution of the

image quality adjustment processing is halted, or a degree of brightness value

adjustment in the image quality adjustment processing is reduced in order to improve

reproducibility in both the highlight range and the shadow range, as suggested by

Terashita.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US005832111A: note the use of image analysis detecting brightness values.

US007202902B2: note the use of image smear detection.

US006483940B1: note the use of detecting clusters within an image.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISS S. YODER III whose telephone number is (571)272-7323. The examiner can normally be reached on M-F: 8 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye can be reached on (571) 272-7372. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/C. S. Y./
Examiner, Art Unit 2622

/NHAN T TRAN/
Primary Examiner, Art Unit 2622